

## ABSTRACT OF THE DISCLOSURE

An embodiment of the invention described in the specification and drawings is an apparatus and method of generating a phase-shifted maximum length pseudo-random noise (PN) sequence without resorting to complicated counters and clocking schemes. The  
5 apparatus includes a linear feedback shift register (LFSR) that has N stages and the ability to generate a first PN sequence at an output of its last stage. The LFSR is coupled to a first mask circuit and a second mask circuit for generating a second PN sequence and a third PN sequence. The apparatus further includes logic for selectively outputting bits from the second and third PN sequences to form a fourth PN sequence, which has a phase shift  
10 relative to the first PN sequence.

15

20

25

30

35